

Q1b H1 > 2. (Amended Three Times) A method for obtaining a recombinant cell-specific binding moiety for an ability to increase uptake or specificity of a genetic vaccine for a target cell, the method comprising:

(1) recombining at least first and second forms of at least one nucleic acid, wherein each of the first and second forms of the nucleic acid comprises a polynucleotide that encodes a nucleic acid binding domain and at least first and second forms of at least one additional nucleic acid, wherein each of the first and second forms of the additional nucleic acid comprises a polynucleotide that encodes a cell-specific ligand that specifically binds to a protein on the surface of a cell of interest, wherein the first and second forms of each nucleic acid differ from each other in two or more nucleotides, to produce a library of recombinant binding moiety-encoding nucleic acids;

(2) producing a library of vectors from the library of recombinant binding moiety-encoding nucleic acids, wherein each vector comprises: a) a binding site specific for the nucleic acid binding domain and b) a member of the library of recombinant binding moiety-encoding nucleic acids;

(3) introducing one or more members of the library of vectors into one or more host cells, wherein the encoded recombinant binding moiety is expressed and recovering the expressed recombinant binding moiety;

(4) binding the expressed recombinant binding moiety to a vector comprising the binding site to form a vector-binding moiety complex;

(5) contacting the vector-binding moiety complex with a target cell of interest; and

(6) determining if one or more target cells contain a vector from the vector-binding moiety complex, and recovering the recombinant cell-specific binding moiety nucleic acid from any such target cells.

Q1b H1 > 18. (Amended Four Times) A method for obtaining a recombinant cell-specific binding moiety for an ability to increase uptake, efficacy, or specificity of a vaccine or antigen for a target cell, the method comprising:

(1) recombining at least first and second forms of at least one nucleic acid, wherein each of the first and second forms of the nucleic acid comprises a polynucleotide which encodes a binding moiety polypeptide of an enterotoxin, wherein the first and second forms differ from each other in two or more nucleotides, to produce a library of recombinant nucleic acids;

(2) producing a library of vectors from the library of recombinant nucleic acids, wherein each vector comprises a member of the library of recombinant nucleic acids;

(3) introducing one or more members of the library of vectors into one or more host cells, wherein the one or more members of the library of recombinant nucleic acids are expressed to form one or more recombinant cell-specific binding moiety polypeptides and recovering the one or more recombinant cell-specific binding moiety polypeptides;

(4) contacting the one or more recombinant cell-specific binding moiety polypeptides with a cell surface receptor of a target cell; and

(5) determining which of the one or more recombinant cell-specific binding moiety polypeptides exhibits an enhanced ability to bind to the target cell compared to the ability of a binding moiety polypeptide encoded of (1) to bind to the target cell.

22. (Amended Twice) A method for producing a composition for eliciting an immune response, the method comprising coating a polynucleotide that is capable of expressing an antigen with a recombinant cell-specific binding moiety polypeptide produced by the method of claim 18.

23. (Amended Twice) The method of claim 18, wherein each of the one or more recombinant cell-specific binding moiety polypeptides is expressed as a fusion protein on the surface of a replicable genetic package.

51. (Amended Twice) A method for obtaining a recombinant cell-specific binding moiety polypeptide for an ability to increase uptake, efficacy, or specificity of a vaccine antigen for a target cell, the method comprising:

(1) recombining at least first and second forms of at least one nucleic acid that comprises a polynucleotide which encodes a cell-specific binding moiety polypeptide, wherein

the first and second forms differ from each other in two or more nucleotides, to produce a library of recombinant nucleic acids;

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(2) introducing one or more members of a library of vectors, each of which comprises a member of the library of recombinant nucleic acids, into one or more host cells, wherein one or more members of the library of recombinant nucleic acids are expressed to form one or more recombinant cell-specific binding moiety polypeptides;

(3) contacting the one or more recombinant cell-specific binding moiety polypeptides with a cell surface receptor of a target cell;

(4) determining which of the one or more recombinant cell-specific binding moiety polypeptides exhibits an enhanced ability to bind to the target cell compared to the ability of the cell-specific binding moiety polypeptide of (1) to bind the target cell; and

(5) fusing or linking the recombinant cell-specific binding moiety polypeptide to the vaccine antigen or coating the vaccine antigen with the recombinant cell-specific binding moiety polypeptide.

52. (Amended) The method of claim 51, wherein each of the one or more recombinant cell-specific binding moiety polypeptides is expressed as a fusion protein on the surface of a replicable genetic package.

53. (Amended Twice) The method of claim 51, wherein each of the one or more recombinant cell-specific binding moiety polypeptides is fused or linked to the vaccine antigen.

64. (Amended) The method of claim 51, wherein the vaccine antigen is coated with one of the one or more recombinant cell-specific binding moiety polypeptides.

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These amendments are made without prejudice to subsequent renewal, including in a related divisional or continuation application, and are not to be construed as abandonment of the previously claimed subject matter or agreement with any objection or rejection of record. In accordance with the requirements of 37 C.F.R. § 1.121, a marked up version showing the changes to